

I claim:

1. A paint roller frame comprising a shaft having a handle portion fixedly secured to a handle and a roller cage assembly mounted on the opposite end of said shaft for supporting a paint roller sleeve thereon, wherein:

Fig 1

said roller cage assembly is generally perpendicular to said shaft's handle portion;

said roller cage assembly comprises a bearing portion and an outer portion which is removable to permit replacement of the roller sleeve;

said bearing portion is mounted on said shaft that is passing through an opening in the bearing portion;

said bearing portion has a supporting surface to support the paint roller sleeve and an annular (inner) face against which an adjacent (inner) end surface of the roller sleeve core can be urged to prevent the paint roller sleeve from axial sliding and to inhibit paint flow into the interior of the core;

said outer portion having a supporting surface to support the paint roller sleeve and an annular (outer) face against which an adjacent (outer) end surface of the roller sleeve core can be urged to prevent the paint roller sleeve from axial sliding and to inhibit paint flow into the core interior;

said bearing portion and said outer portion further comprising mating connection means having characteristics that ensure fast and tight trapping of the core and that prevent weakening of the sleeve squeezing while painting.

2. A paint roller frame as claimed in claim 1 further comprising two resilient washers adjacent to said inner and outer annular faces to significantly improve sealing of the core's interior and to create a strain that prevents unscrewing of the outer portion and, therefore, further ensures a secure sleeve squeezing during painting.

Fig 1

Fig 1

3. A paint roller frame as claimed in claim 1 where said bearing portion further comprises a washer to prevent leaks inside the roller cage assembly along the shaft through said opening in the bearing portion.

Fig 1

4. A paint roller frame as claimed in claim 1 where the length of said roller cage assembly is adjustable by repositioning of the roller cage parts allowing usage of the same roller frame with roller sleeves of different lengths.

Fig 1

5. A paint roller frame as claimed in claim 1 further comprising a roller cage stopper to keep said roller cage from rotating around the shaft without holding the roller sleeve with the hand or any tool; said stopper is used when there is a need to either connect (screw) said outer portion, or disconnect (unscrew) it; when the stopper is in the 'OFF' mode, the stopper does not prevent the roller cage from rotating, and the paint roller frame can be used for painting; when the stopper is in the 'ON' mode, it does not allow the roller cage to rotate, and the outer portion can be easier removed (unscrewed) to permit removal of the paint roller sleeve.

Fig 1

6. A paint roller frame as claimed in claim 1 wherein said roller cage can be removed from the shaft, disassembled for maintenance or replacement of worn parts, assembled again, and mounted on the shaft with the help of conventional tools.

Fig 1

7. A paint roller frame as claimed in claim 1 further comprising a clip-on end wig that can be mounted on the cylinder surface of said annular face of the outer end assembly comprising of a cap and a painting portion attached to the cap; said painting portion made of a material similar to the covering of the paint roller sleeve.

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Fig 4

8. A hook that either can be made attachable or is permanently attached to the paint roller frame shaft and which, when attached, is located near the end of the shaft's handle portion that is close to the paint roller sleeve; the hook allows the roller frame be mounted higher on a grid (a paint rack) fastened in a paint bucket; such location of the hook keeps the roller sleeve resting above the paint in the highest possible position to let more paint be pored in the paint bucket without the paint roller sleeve soaking the paint.

Fig 1
9. A plastic sheathing for the portion of the shaft adjoining the roller cage assembly to eliminate dark marks on walls as a result of occasional touching walls by said portion of the shaft during painting.

Fig 1
10. A new shape of the roller frame shaft's portion adjoining the roller cage assembly to provide a greater convenience and reduce wall touching by the shaft while working in narrow places; said new shape smoothers the shaft's curve that connects two strait shaft segments one which is perpendicular to the roller axle and another one that is parallel to the roller axle and adjoining the handle portion of the shaft; said smothering is achieved by providing an intermediate portion of the shaft that has about 135° angle with both mutually perpendicular shaft portions.

11. A new multi-purpose painter tool comprising a pair of opposed roller-handling members that can be used for paint wiping before the paint roller sleeve is taken off the roller frame; wherein:

said members are both rotatably mounted on the same fulcrum;

said members have concaved arc surfaces which can embrace the paint roller sleeve and which in the outmost close position form an arc of about 360° with a diameter about the external diameter the external diameter of the paint roller sleeve core;

said members in the utmost open position allowing to easily embrace any roller sleeve;

said members have handles to hold said tool, open said members, and keep the members closed with a desirable gap to impose a controlled pressure on the embraced surface;

said tool can be also used for roller sleeve gripping; if no retaining means like a roller cage stopper are provided by the paint roller frame design, such gripping is needed to retain the roller cage from rotating when disconnecting (unscrewing) said removable outer portion; if a roller cage stopper exists, the tool can be used to grip the sleeve together with said removable outer portion when unscrewing it; the multi-purpose tool

can be also used to remove the paint roller sleeve from the roller cage for any paint roller frame design;

12. A multi-purpose painter tool as claimed in claim 11 where each said member further comprises a comb to extract paint and clean brushes and where one said comb has a row of teeth more closely spaced than a row of teeth of another comb; more widely spaced teeth are used for preliminary brush cleaning while more closely spaced teeth are used for fine brush cleaning.

13. A multi-purpose painter tool as claimed in claim 11 where said arc surfaces further comprise lips to ensure a firm and reliable grip; said lips can have a resilient surface to minimize damage to the sleeve core.

14. A handle adapter that comprises two telescopically engaged parts with a lock mechanism one of these parts has a conventional male thread and fixture means to be firmly attached to a conventional roller frame handle while another part has a conventional female thread and fixture means to be firmly attached to a conventional extension pole; said parts when attached to correspondingly the paint roller frame and the pole and then engaged, provide a reliable and firm connection between the extension pole and the paint roller frame while allowing to instantly disconnect them and connect them back as needed.

15. A paint roller frame handle that has a special annular ring surface on its external end to provide for better engagement between said handle and locking means of an extension attached to the handle; said annular ring surface can be of uneven shape like ribbed or with notches, holes, etc.; the surface can belong to a special ring that is fixed on the handle.

16. A paint bucket organizer, that has a body, which can be firmly attached to the bucket with the help of a fixture, and accessories, which are mounted on the paint bucket organizer's body and which comprise a grid retainer and a paint roller frame support; said grid retainer does not allow the grid to slide along the paint bucket top edge changing its position in the paint bucket; said roller frame support holds the roller frame up when the paint roller frame is hanging on the grid not letting the roller frame to turn over even when an extension pole is attached to its handle.

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